

# Tymofii Shchetilin

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## Education

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### Charles University

Sept 2022 – June 2026

BS in Computer Science

- GPA: 1.1/1 (3.9 in 4-point system).
- **Coursework** (apart from traditional CS subjects): Deep Learning, Machine Learning, Probability and Statistics 1/2, NLP, LLMs, Algorithmic Game Theory, Distributed Systems.

## Work Experience

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### Software Engineer | F#, C#

Prague, Czechia

Barclays Investment Bank

July 2024 – Present

- Extended the health-check microservice with new report types, raised monitoring coverage from and cut mean-time-to-detect production issues.
- Built pricing curve loaders and stress test engines that generate forward rates, ATM-vol surfaces and full Greek ladders for portfolios; reduced the run time of the scenario calculation logic by 300%.
- Increased unit test coverage from 20% to 80% in three months. Eliminated 1,000+ compiler/static-analysis warnings.
- Designed and rolled out a GitLab CI/CD pipeline for a 10-engineer squad.

### Student Researcher | Python

Prague, Czechia

Charles University

November 2024 – Present

- Developing code-completion systems using SOTA LLMs.

### Student Researcher | Python

Zaporizhzhia, Ukraine

Junior Academy of Sciences of Ukraine

June 2020 – Feb 2022

- 2021-2022: Researched time-series analysis of Bitcoin, focusing on price prediction using various autoregressive models.
- 2020-2021: Investigated methods to optimize the performance of the AES encryption algorithm.

## Projects

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### Knowledge Extraction Platform

GitHub [↗](#)

- Integrated LLMs for generating knowledge graphs from unstructured text. The platform allows users to upload an arbitrary text and it will construct a knowledge graph with annotated vertices and edges.

### LISP interpreter

GitHub [↗](#)

- Developed an interpreter of the LISP programming language in Python: parsing, evaluation of expressions, including arithmetic operations, conditionals, and functions.

### Technology Migrator

GitHub [↗](#)

- Automate the migration of code from a legacy technology stack to a modern one. For a given repository, our tool rewrites it using a new specified technology and verifies that code preserved its logic using generated tests.

## Awards and Honors

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**2022-2024** – 3x Merit Scholarship, Charles University

**November 2024** – 9th/105 (team of 3), Qminers Quant Hackathon

- Competition where we developed an ML model to bet on basketball games.

**October 2024** – 2nd/20 (team of 3), Barclays GenAI Hackaton (regional stage).

**2022** – 1st place in Mathematical Modeling section, Scientific research projects contest under Junior Academy of Sciences of Ukraine.

**2021** – 4th place in Cryptography, Scientific research projects contest under Junior Academy of Sciences of Ukraine.

**2019** – Bronze Medal, National stage of All-Ukrainian Economics Olympiad.

**2018-2022** – Regional stage winner and National stage participant, All-Ukrainian Olympiads in Competitive Programming, Physics, Chemistry, Geography, Economics.

## Volunteering

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### **EuroPython**

*June 2023 – March 2024*

- 2024 - Talk proposals reviewer.
- 2023 - Session chair as an on-site volunteer (I introduced guests and organized talks).

### **Ukrainian Red Cross Society**

*2022*

## Technologies

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**Languages:** C#, F#, Python, C/C++.

**Technologies:** DSPy, Git, PyTorch, Scikit-learn, Pandas, Numpy.